

REMARKS

INTRODUCTION:

Claims 1-20 are pending and under consideration. Claims 21-23 are currently withdrawn.

ELECTION/RESTRICTION:

In the Office Action, at page 2, the Examiner withdrew claims 21-23. MPEP 809.03(B) recites that "a claim to the necessary process of making a product linking proper process and product claims" is a linking claim. Applicants respectfully submit that claims 21-23 are linking claims, respectively linked with claims 1-3. Accordingly, Applicants respectfully submit that the restriction requirement should be removed, and claims 21-23 should be examined in the current application.

ALLOWED SUBJECT MATTER

In the Office Action, at page 8, the Examiner indicated that claims 16-20 are allowed. Yet claims 17 and 18 depend from rejected claim 3, and claims 19 and 20 depend from rejected claim 5. Presumably, independent claim 16 is allowed, and dependent claims 17-20 should be identified as containing allowable subject matter.

REJECTION UNDER 35 U.S.C. §112:

In the Office Action, at page 2, the Examiner rejected claims 1-14 under 35 U.S.C. §112, first paragraph, for the reasons set forth therein. The reasons for the rejection are set forth in the Office Action and therefore not repeated. Applicants traverse this rejection and respectfully request reconsideration.

The test for enablement is whether the claimed invention is sufficiently disclosed such that one of ordinary skill in the art can make and use the invention without undue experimentation. (See MPEP, at 2164.01). Applicants respectfully submit that JIS B0601 is a publicly known standard, and as such, the stipulations thereof would be known or discoverable by one of ordinary skill in the art without any experimentation, let alone undue experimentation. Accordingly, Applicants respectfully submit that the rejection is overcome.

REJECTION UNDER 35 U.S.C. §103:

In the Office Action, at page 3, the Examiner rejected claims 1-4, 6, 12, and 13 under 35 U.S.C. §103(a) as being unpatentable over Ouchi et al., (U.S. 6,299,542 – hereinafter Ouchi) in

view of Yamamoto et al., (U.S. Patent 6,227,979 – hereinafter Yamamoto '979) and Takemura et al., (U.S. Patent 5,411,336 – hereinafter Takemura). The reasons for the rejection are set forth in the Office Action and therefore not repeated. Applicants traverse this rejection and respectfully request reconsideration.

In the Office Action, at page 5, the Examiner rejected claim 5 under 35 U.S.C. §103(a) as being unpatentable over Ouchi in view of Yamamoto '979 and Takemura, and further in view of Krude (U.S. Patent 4,529,254 – hereinafter Krude). The reasons for the rejection are set forth in the Office Action and therefore not repeated. Applicants traverse this rejection and respectfully request reconsideration.

In the Office Action, at page 6, the Examiner rejected claims 7-9 under 35 U.S.C. §103(a) as being unpatentable over Ouchi in view of Yamamoto '979 and Takemura, and further in view of Yamamoto et al. (U.S. Patent 6,367,981 – hereinafter Yamamoto '981). The reasons for the rejection are set forth in the Office Action and therefore not repeated. Applicants traverse this rejection and respectfully request reconsideration.

In the Office Action, at page 6, the Examiner rejected claims 10 and 11 under 35 U.S.C. §103(a) as being unpatentable over Ouchi in view of Yamamoto '979 and Takemura, and further in view of Jacob et al. (U.S. Patent 5,580,313 – hereinafter Jacob). The reasons for the rejection are set forth in the Office Action and therefore not repeated. Applicants traverse this rejection and respectfully request reconsideration.

In the Office Action, at page 7, the Examiner rejected claims 14 and 15 under 35 U.S.C. §103(a) as being unpatentable over Ouchi in view of Yamamoto '979, Takemura, Yamamoto '981; and further in view of Ikezawa et al. (U.S. 5,630,668 – hereinafter Ikezawa). The reasons for the rejection are set forth in the Office Action and therefore not repeated. Applicants traverse this rejection and respectfully request reconsideration.

As a general matter, to establish a *prima facie* obviousness rejection, the Examiner needs to provide evidence of the existence of individual elements corresponding to the recited limitations, a motivation to combine the individual elements to create the recited invention, and a reasonable expectation of success. (See MPEP, at 2143. – “[t]he teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure.” *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).”, and at 2143.03 – “[t]o establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art.” *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).”).

Should the Examiner fail to provide evidence that the individual elements exist in the

prior art, or that the motivation exists in the prior art or in the knowledge generally available to one of ordinary skill in the art, then the Examiner has not provided sufficient evidence to maintain a prima facie obviousness rejection of the claim. (See MPEP, at 2143.03, and 2143.01). Thus, the burden is initially on the Examiner to provide evidence as to why one of ordinary skill in the art would have been motivated to combine the individual elements to create the recited invention, and to demonstrate that this evidence existed in the prior art or in the knowledge generally available to one of ordinary skill in the art. (MPEP 2143.01).

The Examiner states that the motivation to combine Ouchi and Yamamoto '979 with Takemura is "to arrange for the surfaces disclosed by Ouchi et al. to have a surface roughness less than 0.8 to lessen the chance of peeling damage thereby extending the useful life of the joint."

As support for this motivation the Examiner asserts that Takemura "teaches use of surface roughness being less than 0.8 microns as stipulated in B0601 of JIS standards (col. 2, lines 16-25) to avoid peeling damage." Applicants respectfully submit that the Examiner overstates and thereby misrepresents the very narrow teachings of Takemura.

The object of Takemura is "...to provide a rolling bearing long in service life which is formed according to a method in which the surface roughnesses of the rolling elements and the mating member and the ratio of those surface roughnesses are specified in a range of surface roughnesses which is obtained by subjecting the rolling elements and the mating member to ordinary grinding and polishing." (Takemura col. 2, lines 8-15).

But to achieve this object, Takemura teaches use of rolling elements and mating surfaces having surface roughnesses in a range of from 0.15 to 0.5 μmRa when represented by central line average roughness according to JIS B0601 and the ratio between the respective surface roughnesses is 3 or less, but only under the very specific conditions in which an oil film parameter Λ , is 1.5 or smaller. (See Takemura, at col. 2, lines 16-24).

Applicants respectfully note that Takemura is the only reference to disclose such a range of surface roughnesses.

Additionally, Takemura notes that the oil film parameter Λ represents the degree of formation of an oil film, and that when $\Lambda \leq 1.5$, a rolling bearing is placed in a so-called boundary lubrication state. (See Takemura, at col. 1, lines 10-32). The entirety of the teaching of Takemura is directed to oil-lubricated bearings in this boundary lubrication state. (See Takemura, at col. 4, lines 39-44).

In short, Takemura is directed to a relationship between the surface roughness and

peeling damage in a boundary lubrication state when employing oil, which is a liquid lubricant. As noted in the McGraw-Hill Encyclopedia of Science and Technology, grease is not a liquid lubricant, but rather, "[a] lubricating grease is a solid or semi-fluid lubricant comprising a thickening (or gelling) agent in a liquid lubricant." (McGraw-Hill Encyclopedia of Science and Technology – 7th Ed., vol. 10, p. 214, 1992). Applicants respectfully submit that the mechanism for friction in non-liquid lubrication is totally different from that of liquid lubrication, and therefore, the process of causing damage is different as well.

Neither Ouchi nor Yamamoto '979 discloses that a rolling bearing is in a boundary lubrication state. Further, neither Ouchi nor Yamamoto '979 discloses using oil as a lubricant. The only lubricants mentioned in Ouchi or Yamamoto '979 is grease. (See Ouchi, at col. 4 lines 7-13, and Yamamoto '979, at col. 7, lines 37-44, col. 15, lines 43-48, col. 16, lines 16-26, and col. 17, lines 16-20).

Applicants respectfully submit that there is no basis to assert that one of ordinary skill in the art would be motivated to combine the teachings as asserted by the Examiner.

As such, Applicants respectfully submit that there is insufficient evidence of a motivation that existed in the prior art and which would have motivated one of ordinary skill in the art to make the combination in the manner set forth in the office action.

In response to Applicants' arguments, the Examiner misstates and mischaracterizes Applicants' arguments. Applicants do not assert that the teachings of Ouchi, Yamamoto '979, and Takemura are uncombinable, or that Takemura is non-analogous art. Instead, as noted above, Applicants submit that there is insufficient evidence of a motivation that existed in the prior art and which would have motivated one of ordinary skill in the art to make the combination in the manner set forth in the office action.

Additionally, the Examiner again mischaracterizes the very narrow teaching of Takemura with the overly broad statement "...Takemura seeks to increase the service life of a rolling bearing by machining the contact surfaces of the elements as smooth as possible to sufficiently form oil films."

Further, the Examiner asserts that "[t]he grease in the prior art will inherently form a film at the bearing surfaces." Yet the Examiner provides no referential basis for such an assertion.

To the extent that the Examiner believes Ouchi or Yamamoto '979 discloses such a feature based upon personal knowledge, personal knowledge, when used as a basis for a rejection, must be supported by an affidavit as to the specifics of the facts of that knowledge when called for by the applicant. (See, MPEP 2144.03, 37 C.F.R. § 1.104(d)(2).) In short, the

rules of the U.S. Patent and Trademark Office require that the Examiner must either support this assertion with an Affidavit, or withdraw the rejection. Therefore, Applicant respectfully requests that the Examiner support the rejections with either an affidavit or a reference, or withdraw the rejections.

Even assuming *arguendo* that the cited art grease forms a film at the bearing surfaces, Applicants respectfully submit that there is no basis to assert that such a film is an oil film, or that a rolling bearing is placed in a boundary lubrication state. Accordingly, Applicants again submit that there is insufficient evidence of a motivation that existed in the prior art and which would have motivated one of ordinary skill in the art to make the combination in the manner set forth in the office action.

Accordingly, Applicants respectfully submit that the Examiner has failed to provide evidence that the motivation to combine the references as suggested by the Examiner exists in the prior art or in the knowledge generally available to one of ordinary skill in the art, and thus, the Examiner has not provided sufficient evidence to maintain a prima facie obviousness rejection of the claims.

Moreover, the Examiner simply uses the Applicants' present invention as the recipe and the motivation for achieving the claimed constant velocity universal joint. This is improper hindsight analysis. As stated in the MPEP, "[t]he mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination." (MPEP 2143.01 – referring to In re Mills, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990)).

Additionally, claim 9 recites: "...wherein the surface treatment layer is a low temperature sulfurized layer."

In rejecting claim 9, the Examiner relies on Yamamoto '981 (col. 2, lines 2-21). This passage recites using a thin film of Molybdenum disulfide as a solid lubricant, and the Examiner relies on the conditions in which such a Molybdenum disulfide layer might be used (extremely low temperatures – Yamamoto '981, col. 2, line 13) to assert that Yamamoto '981 discloses a surface treatment layer that is a low temperature sulfurized layer.

But the subject Specification (at page 16, lines 4-26) indicates that a surface treatment layer that is a low temperature sulfurized layer is distinct from a surface treatment layer of Molybdenum disulfide. Thus, Applicants respectfully submit that Yamamoto '981 does not disclose a surface treatment layer that is a low temperature sulfurized layer.

Accordingly, Applicants respectfully submit that the Examiner has failed to provide

evidence that the individual elements, as recited in claim 9, exist in the prior art, and thus, the Examiner has not provided sufficient evidence to maintain a prima facie obviousness rejection of the claim 9.

Applicants respectfully submit that independent claim 1 patentably distinguishes over the cited art, and should be allowable for at least the above-mentioned reasons.

MPEP 2143.03 cites: "[i]f an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious." In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

Accordingly, Applicants respectfully submit that claims 2-15, which ultimately depend from independent claim 1, should be allowable for at least the same reasons as claim 1, as well as for the additional features recited therein.

CONCLUSION:

In accordance with the foregoing, Applicants respectfully submit that all outstanding objections and rejections have been overcome and/or rendered moot, and further, that all pending claims patentably distinguish over the cited art. Thus, there being no further outstanding objections or rejections, the application is submitted as being in condition for allowance which action is earnestly solicited.

If the Examiner has any remaining issues to be addressed, it is believed that prosecution can be expedited by the Examiner contacting the undersigned attorney for a telephone interview to discuss resolution of such issues.

If there are any underpayments or overpayments of fees associated with the filing of this Amendment, please charge and/or credit the same to our Deposit Account No. 19-3935.

Respectfully submitted,
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